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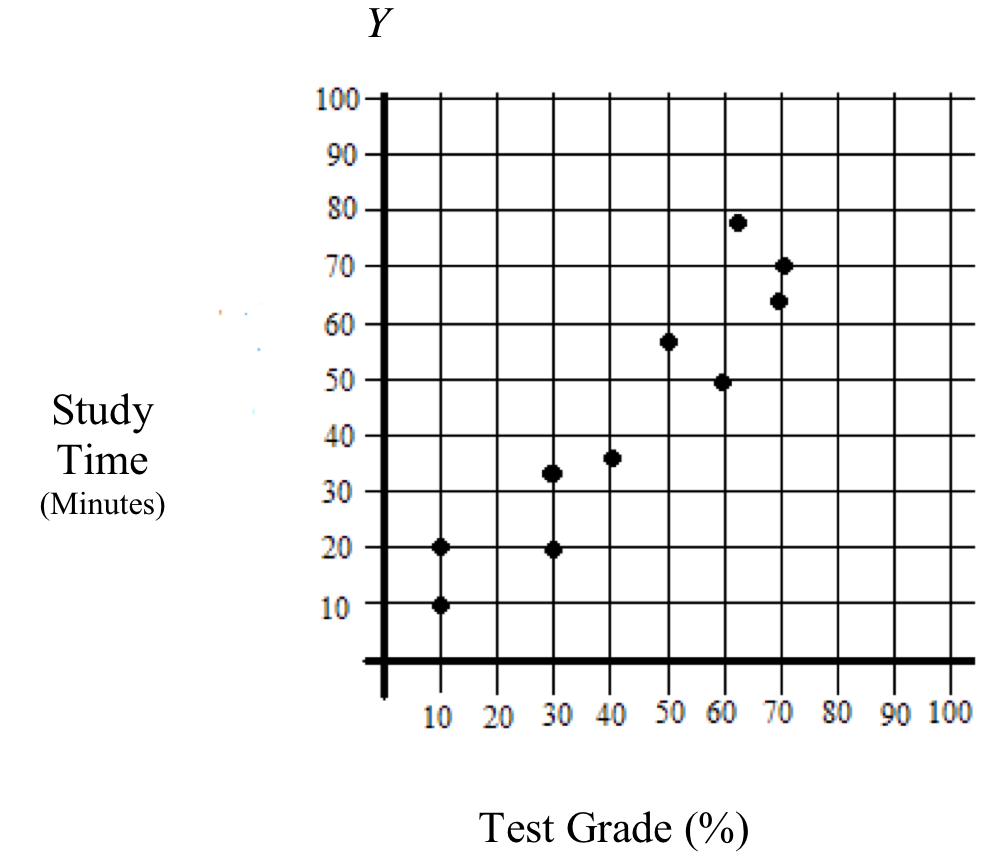
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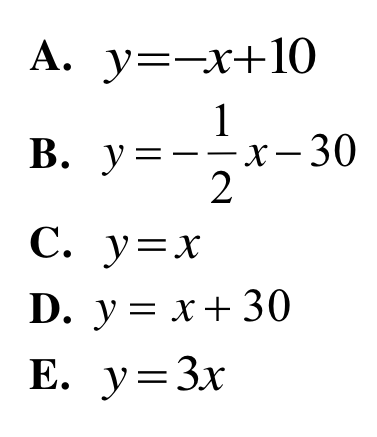
Interpret & use information from graphs

Compute area when one or more steps is required

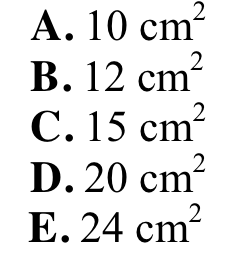
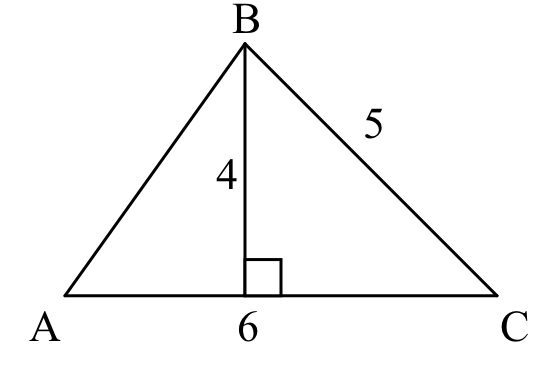
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| **CRS** | **CLASS OF 2015 AVERAGE MASTERY** |
| **GRE 601: Interpret and use information from graphs in the coordinate planes.** |  |
| **MEA 501: Compute the area of triangles and rectangles when one or more additional simple steps is required.** |  |

**Example 1: **

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| **Together, We’ll Do:** | |
| **1.** | ***Reflection:*** What are the mistakes that one could easily make when answering this problem? |
| **With Your Team, You’ll Do:** | |
| **2.a**    **b.** What is the equation of a line, perpendicular to the one shown, and passing through point (0, 2)?  ***Reflection:*** What are the mistakes that one could easily make when answering this problem? |  |
| 3.    ***Reflection:*** What are the mistakes that one could easily make when answering this problem? |  |
| **On Your Own, You’ll Do:** | |
| At t = 20, approximately what is Kirk’s *speed* in meters per second?   1. 1.0 2. 2.5 3. 20 4. 50   ***Reflection:*** What are the mistakes that one could easily make when answering this problem? |  |
| The water in a swimming pool is initially 5 feet deep. The water is then drained at a constant rate until the pool is empty. The graph below shows the water level *L(t)* in the tank as a function of time (*t*).    Which of these functions represents the relationship between the time and water level?  A. L*(t)* =+ 5  B. L*(t)* =– 5  C. L*(t)* = *-*4t + 5  D. L*(t)* = -4t – 5  E. L*(t)* = -5t + 4  ***Reflection:*** What are the mistakes that one could easily make when answering this problem? |  |

**Example 2:** *What is the area of triangle ABC?*

*All units shown are in cm.*

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| **Together, We’ll Do:** | **With Your Team, You’ll Do:** |
| 1. The perimeter of ABCD is 24 inches. What is the area, in square inches, of quadrilateral ABCE?  A  B  C  D  E  5 in.  8 in.  ***Reflection:*** What are the mistakes that one could easily make when answering this problem? | 2. Square ABDE has an area of 16 square cm. Triangles AEF and BDC are congruent. Find the area of the entire polygon.  A  B  C  D  E  F  16 cm.  ***Reflection:*** What are the mistakes that one could easily make when answering this problem? |
| **On Your Own, You’ll Do:** | **With Your Team, You’ll Do:** |
| 3. In the figure below, all angles are right angles and the dimensions are in meters. What is the area of this figure?  ***Reflection:*** What are the mistakes that one could easily make when answering this problem? | 4. A mason has a square slab of concrete that has an area of 64 square inches. He needs to cut the slab into the largest possible circle. How many square inches will the circle be?  ***Reflection:*** What are the mistakes that one could easily make when answering this problem? |
| **On Your Own, You’ll Do:** | |
| 3. An equilateral triangle has a perimeter of 16 inches. What is the area of the triangle? Express your answer in simplified radical form.  ***Reflection:*** What are the mistakes that one could easily make when answering this problem? | 4. Find the area of the following right triangle.  9ft .      ***Reflection:*** What are the mistakes that one could easily make when answering this problem? |
| 5.  ***Reflection:*** What are the mistakes that one could easily make when answering this problem? | 6. |

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_ EXIT SLIP Score: \_\_\_\_\_\_ / 2**

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| The graph below shows how much money a business made in its first 10 months of operation. Approximately how much more money did the business make in the 9th month than it did in the 5th month? | The perimeter of rectangle ABCD is 34 cm. What is the area, in square centimeters, of quadrilateral ABCD?  A  B  C  D  E  4  7 |
| 3) *Reflect in complete sentences.*  a. What types of mistakes did I make when answering questions that require interpreting graphs? How can I avoid them in the future?  b. What types of mistakes did I make when answering multi-step questions about finding the area of figures? How can I avoid them in the future? | |

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Expressions, Equations, and Relationships

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| **CRS** | **CLASS OF 2015 AVERAGE MASTERY** |
| **XEI 601: Manipulate expressions and equations** |  |
| **NCP 701: Draw conclusions based on number concepts, algebraic properties, and/or relationships between expressions and numbers** |  |
| **NCP 508: Determine when an expression is undefined** |  |

**Example 1:** *Given that ‘a’ is a positive real number, solve for ‘a’:* 

a. 

b. 

c. 

d. 

e. 

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| **Together, We’ll Do:** | **On Your Own, You’ll Do:** |
| **1.** | 4. Solve for y in the following,  a. 3x  b.  c. 2x  d. 4x  e. |
| **Together, We’ll Do:** | **On Your Own, You’ll Do:** |
| 3. For all b, if c - 2 = b and f + b =1, then *cf* =?  a. 2 – 2b  b. 1  c. -2  d. 2b  e. 2 +2b | 6. For all b, if m – 3 = b and n – b = 5, what is m + b?  a. 5 + b  b. 2b + 8  c. 3b + 5  d. 3b + 5b  e. 2 |
| **With Your Team, You’ll Do:** | **On Your Own, You’ll Do:** |
| 5. | **2.** . For all x > 3,  A.  B.  C.  D.  E. |

**Example 2:** *If x > 0 and y < 0, then x2 – y:*

1. *Is always positive*
2. *Is always negative*
3. *Is always zero*
4. *Cannot be zero, but can be any real number other than zero*
5. *Can be any real number*

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| **Together, We’ll Do:** | **With Your Team, You’ll Do:** |
| If a > 0 and b < 0, which of the following must be true for the value of b – a?  a. b – a > a  b. b – a > 0  c. b – a > b  d. b – a < ab  e. b – a < b | If x < 0 and y < 0 , which of the following *must* be true for the value of x + y?  a. x + y >0  b. x + y > x  c. x + y > y  d. x + y < 0  e. x + y >x |
| **On Your Own, You’ll Do:** | |
| Which of the following expressions has a positive value for all x and y such that x > 0 and  y < 0?  A. y – x B. x + y  C. x3y D.  E. | If *m*<0 and *p*>0, which of the following is always true?  A.  B.  C.  D. |
| For which values of *z* is  ?   1. 0 < *z* < 1 2. *z* > 1 3. *z* < 0   D. -1 < *z* < 1 | The expression  has the value 0 if and only if  A.  and  B.  and  C.  and  D.  and  E.  and |

**Example 3:** *What is the product of the values that make the following expression undefined?*



1. 9
2. 18
3. 3
4. 2
5. -9

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| **Together, We’ll Do:** | **With Your Team, You’ll Do:** |
| What is the sum of values that make the following expression undefined?   1. 4 2. -8 3. -4 4. 8 5. -12 | How many positive integer values for *x* make the following expression undefined:  A. 1  B. 4  C. 5  D. None  E. Infinitely many |
| **On Your Own, You’ll Do:** | |
| The expression  is undefined when *x* is:  A. Any negative number  B. Equal to 5  C. Equal to 5 or any negative number  D. Equal to 0  E. The expression is defined for all real values of *x*. | How many values for *x* make the following expression undefined?    A. 0  B. 1  C. 2  D. 3  E. Infinitely many |
| The expression  is undefined for what values of x?   1. x < 6 2. x > 6 3. x < -6 4. x > -6 5. x = 6 | If a is a real number and  is undefined, what is the value of a – 1?   1. 6 2. -6 3. 4 4. -4 5. -5 |

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| What is the sum of the values that make the following expression undefined? | Solve for ‘b’: |
| 3) *Reflect in complete sentences.*   1. What determines whether or not a fractional expression is defined? 2. What determines whether or not a radical expression is defined? 3. What was my most common mistake today and how can I avoid making it in the future? | |